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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,282	12/29/2000	Schuster Karl-Heinz	001406	9180

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EXAMINER

NGUYEN, HUNG

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 03/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,282

Applicant(s)

KARL-HEINZ ET AL.

Examiner

Henry Hung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because difference elements having same reference number. For instance, reference character "11" has been used to designate both "supply apparatus" and "gas directing device" and "nozzle" (see claims 1 and 2 for example). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: the specification has no section headings as required. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.

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(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

Abstract

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because:

a. the following legal phraseology should be omitted:

"comprises" line 10.

b. reference to "Figure 2" line 21 should be deleted.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. As to claim 1, the breadth, scope and meaning of the term “particular” (line 1 and 3) is vague and indefinite.

b. The alternative recitation of “having a slot-shaped image field or rotationally non-symmetrical illumination” render the claim indefinite. Since the two structures are not equivalent. It is not clear which of the two cases is encompassed by the claim.

5. It is unclear how “the volumetric flow of the existing gas has a magnitude and spatial distribution which are adapted to the intensity distribution of the radiation” as claimed. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: at least one sensor (or detector) for detecting the intensity of the radiation, and at least one controller for controlling the volumetric flow of the existing gas based on the detected intensity signal.

As to claim 12, the recitation of “wherein the gas directing device is part of a sweeping device for the optical element and/or the optical arrangement” is ambiguous and indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. As best the claimed subject matters are understood (see rejection under 35 U.S.C. 112, second paragraph, *supra*). Claims are anticipated by references.

9. Claims 1, 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokuda et al (U.S.Pat. 5,995,263).

With respect to claims 1, and 12-13, Tokuda et al discloses an exposure apparatus comprising all of the limitations of the instant claim including a gas supply apparatus comprising at least one gas directing device (32A,32B) which is positioned relative to optical lens (15) and the temperature of gas and the flow rate of the supplied gas are measured and controlled in accordance with the intensity distribution of the light source (see col.7, lines 3-41 and figs.1, 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (U.S.Pat. 5,920,377) in view of Su et al (U.S.Pat. 6,099,763).

With regard to claims 1, 3, Kim discloses an optical arrangement in a projection exposure system comprising a light source (see col.1, lines 25-26) for emitting light; a gas supply device (fig.5) with at least one supply line (L1-L4) and gas directing device for controlling the temperature of an optical system where the volumetric flow of the supplied gas is controlled

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based on the intensity distribution of the radiation (see figs 4,5, 8 and 11). Kim does not disclose the gas is directed blown towards the optical element. Su et al (fig.16) discloses a gas supply device (418) having a plurality of gas nozzles for directly blowing gas toward the lens for cooling off the lens. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the nozzle as taught by Su into the device of Kim in order to blow gas directly to the surface of the optical lens for the purpose of cooling off the lens.

As to claims 5-7, although the prior arts do not specifically disclose the claimed adjustable holding device to hold the nozzle, the holding device is seen to be inherent teaching of that device since a means for holding the nozzle must be present for the nozzle to function as intended. In addition, it would have been obvious to a skilled artisan that the nozzle should be made adjustable relative to the optical element whereby any selected regions on the surface of the lens can be cooled off via the nozzle. Also, it has been held that provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

10. Claims 4, 8-13 are rejected under 35 U.S.C. 103(a) as being unpatenable over Kim (U.S.Pat. 5,920,377) in view of Su et al (6,099,763) and further in view of Komoriya et al (U.S.Pat. 5,025,284).

With regard to claims 4, 8-13, Kim as modified by Su discloses substantially all of the structures as set forth in the instant claims including the flow rate of the supplied gas is controlled. However, Kim as modified by Su does not expressly disclose except "throttle valves". Komoriya et al teaches throttle valves (36,37) placed in the gas supply line for controlling the gas flow rate. It would have been obvious to a skilled artisan to utilize the throttle vales as

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taught by Komoriya into the device of Kim as modified by Su et al for controlling the gas flow rates.

Prior Art Made of Record


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fujie et al (U.S.Pat. 5,696,623) and Masami (JP-408045827A) discloses an exposure apparatus having temperature control means for controlling the temperature of the optical lenses.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Hung V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Henry Hung V Nguyen
Examiner
Art Unit 2851

hvn
February 28, 2002